NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

CLOSURE OF WASTE IMPOUNDMENTS

(No.)

CODE 360

DEFINITION

The closure of waste impoundments (treatment lagoons and waste storage ponds), that are no longer used for their intended purpose, in an environmentally safe manner.

PURPOSE

This practice may be applied as part of a conservation management system to support one or more of the following purposes.

- To protect the quality of surface water and groundwater resources.
- To eliminate a safety hazard for humans and livestock
- To safeguard the public health.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to agricultural waste impoundments that are no longer needed as a part of a waste management system and are to be permanently closed or converted.

Where these impoundments are to be converted to fresh water storage and the original impoundment was not constructed to NRCS standards, this practice will only apply where the investigation, as called for in National Engineering Manual (NEM) 501.23, shows structural integrity.

CRITERIA

General Criteria Applicable to All Purposes

The closure shall comply with all Federal, State, and local laws, rules, and regulations.

All structures used to convey waste to waste impoundments shall be removed and replaced with compacted earth material or otherwise rendered unable to convey waste.

Liquid and slurry wastes shall be agitated and pumped to the extent conventional pumping will allow. Clean water shall be added as necessary to facilitate the agitation and pumping. The wastewater shall be utilized in accordance with NRCS Conservation Practice Standard "Waste Utilization" Code 633. The sludge remaining on the bottom and sides of the waste treatment lagoons or waste storage ponds may remain in place provided the following conditions can be met.

- The earth liner under the sludge can reasonably be ascertained to meet the requirements of an earthen liner as defined in Appendix 10D of the Agricultural Waste Management Field Handbook.

- The remaining sludge layer is no more than one foot thick.
- The sludge will be covered with earth in accordance with the requirements stated in the Land Reclamation section of this standard.

If the above conditions are not met, the sludge shall be removed entirely and utilized in accordance with NRCS Conservation Practice Standard "Waste Utilization" Code 633.

Land Reclamation. For reclamation of excavated, totally enclosed impoundments, and combination impoundment and excavated structures, the following criteria apply.

- Remove the waste impoundment contents
- Eliminate any outside drainage from entering the impoundment
- Fill the impoundment with soil. The source for the fill material may be the impoundment embankment, from another source for excavated impoundments, or a combination of the two.
- The earthfill shall be placed in 12 inch lifts and compacted by a minimum of two passes of the hauling and placing equipment.
- The backfill height shall exceed the design finished grade by 5% to allow for settlement. Use the highest clay content fill material for the final 12 inch lift. The surface of the fill shall be graded to ensure that ponding and flow concentrations do not occur.
- If available, place a 4 inch lift of topsoil over the compacted earthfill.
- Vegetate all disturbed areas in accordance with NRCS Conservation Practice Standard "Critical Area Planting" Code 342.

Conversion to Fresh Water Storage. The converted impoundment shall meet the requirements as set forth in the NRCS practice standard for the intended purpose. Waste impoundments that have water impounded against the embankment are considered embankment structures if the depth of water is three feet or more above natural ground and shall comply with NRCS Conservation Practice Standard "Pond" Code 378.

The following additional criteria for converting a waste impoundment to a fresh water storage impoundment shall apply.

- Totally remove all waste supernate, slurry, and sludge from the impoundment.
- Eliminate all polluted discharges from entering the impoundment.
- Monitor the water quality in the impoundment after filling to determine if the water quality is adequate to meet the intended use. Repeated filling with fresh water, pumping and land applying the water within the impoundment may be required to meet the desired water quality.

Protection. All disturbed areas not returned to crop production shall be vegetated in accordance with NRCS Conservation Practice Standard "Critical Area Planting" Code 342, or other suitable measures used to control erosion and restore the esthetic value of the site.

Measures shall be taken during construction to minimize site erosion and pollution of downstream water resources. This may include such items as silt fences, hay bale barriers, temporary vegetation, and mulching.

CONSIDERATIONS

Reduce pumping effort to empty waste impoundments where the surface is covered by a dense mat of floating vegetation by first applying herbicide to the vegetation and then burning the residue. Appropriate permits must be obtained before burning.

Alternative methods of sludge removal may be required where the impoundments contain large amounts of oyster shells, soil, or other debris.

Minimize the impact of odors associated with removal and land application of wastewater and sludge from a waste impoundment by using an incorporation application method at a time when the humidity is low, winds are calm, and wind direction is away from populated areas.

PLANS AND SPECIFICATIONS

Plans and specifications for closure of abandoned waste treatment lagoons and waste storage ponds shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall also be consistent with the requirements of that standard.

OPERATION AND MAINTENANCE

The proper closure of a waste treatment lagoon or waste storage pond should require little or no operation and maintenance. However, if it is converted to another use, such as a fresh water pond, operation and maintenance shall be in accordance with the needs as set forth in NRCS Conservation Practice Standard for the intended purpose.